Some new species of South African Trypetidae (Diptera), including one from Madagascar

by

H. K. MUNRO

Dacus (Dacus) hargreavesi n. sp.

Very like both *Dacus purus Curr.*, and *D. ghesquierei* Coll. *). There is, however, at least in the specimens with a more darkly developed wing-pattern, a distinct, although rather pale, apical spot at the tip of the wing. Further, there is no median, post-sutural, yellow spot or stripe on the mesonotum and no yellow fascia on the second abdominal segment. As to whether all three may prove to be but forms of one species can only be decided when more material is available for study.

Type ♂ and two ♂ paratypes, Uganda, Nawandala, 11. 2. 1924. Coll. H. H(argreaves), No. 901.

♂. Length 6.0 mm., of wing 5.0 mm. A black species. *Head,* proportions of length, height and width, 4, 5 and 6. Frons narrow, about one fourth width of head and twice as long as wide, brown, ocellar dot and elongate triangular vertical plates shining blackish brown, bristles black, two inferior orbitals, superior orbitals apparently usually absent, but in one specimen a weak, hair-like bristle is present, the ocellars minute, hair-like, slight pale pubescence in middle; occiput blackish brown, the orbits narrowly and obscurely yellowish, no yellow spots on vertex and only a trace behind; lunule yellowish brown; antennæ of usual length, the first joint short and the second and third together about equal in length to the cheeks, arista brown at base; face short, shining black, ferruginous at lower corners including genæ; palpi yellow, blackish basally; proboscis blackish, yellow outwardly.

Thorax black with pale pubescence and slight dust; yellow are humeri (except anterior corner), broad mesopleural stripe touching sternite and notopleural callus, an isolated sutural spot, single hypopleural spot and scutellum except narrow black base; bristles black, anterior supra-alar present, the middle scapulars as strong as the outer, the scutellars about the length of scutellum apart. Halteres yellow. Legs: coxæ blackish-ferruginous, femora blackish, the basal fourth of first, basal third of second and basal half of third yellow, tibiæ ferruginous, the fore and middle pairs yellowish apically, tarsi

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*) Collart, Bull. Mus. r. d'Hist. nat. de Belgique, XI, 30—31, 1935.

yellow. Wing very like figures given by Collart (l.c.); stigma brown, marginal and sub-marginal cells pale yellowish hyaline, in the type and one paratype a distinct, darker spot in the tip of sub-marginal cell, just crossing over end of third vein; in both these also the extreme bases of the marginal and sub-marginal cells are infuscated to the upper cross-vein; in the other paratype the apical spot is practically absent and only the base of the marginal cell is infuscated. In all the upper cross-vein is broadly infuscated. Anal stripe broad, filling anal cell and inner corner of third posterior cell, narrowing to end before the wing-margin. Point of anal cell moderately wide, about two and a half times length of rest of sixth vein to wing-margin; there is a cloud below the end of sixth vein. *Abdomen:* tergites fused; rugose with whitish pubescence; black, no yellow fascia on second segment, at most in one specimen a slight ferruginous tinge on the hind edge, the apex, including the „apical patches" reddish. Genitalia and venter blackish.

Dacus (Dacus) fuscinervis Mall.

Malloch, 1932, Ann. Mag. Nat. Hist., Ser. 10, vol. X, 301. syn. *Dacus (Dacus) doryloides* Mro., 1939, Jnl. Ent. Soc. S. Afr., I, 32.

It is unfortunate that when describing the species as *doryloides* Malloch's name was overlooked. In the description nothing is said of the frontal bristles, and the specimen has already been returned to the British Museum. However, Dr. John Smart has kindly examined it and writes that there is no trace of any of the frontal bristles — whether these bristles are quite absent in the species only further specimens will show. That they may occasionally be present as minute, hair-like bristles is possible as is the case in *Dacus (Afrodacus) nigrivenatus* Mro. in which normally only a moderate pair at the base of the antennæ is to be seen, with rarely an upper, minute pair of inferior orbitals. The inner scapulars are also present and are about as large as the outer. The photograph (fig. 1) shows the specimen that was described as *doryloides*.

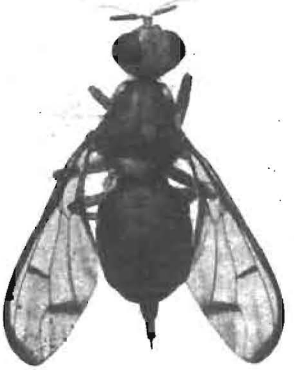

Fig. 1. *Dacus (Dacus) fuscinervis* Mall. ♀.

Ceratitis (Ceratitis) malgassa n. sp.

It is curious that only a few species of Trypetidæ have been recorded from the island of Madagascar, an area in which, from its geographical position, may be expected to occur forms of importance in the study of the distribution of these flies. It is therefore interesting to record a new species of Ceratitine Trypetid from there.

The species is very like *Ceratitis catoirei* Guér. that is found in Mauritius and is recorded from the Seychelles, but which as far as is known does not occur on the continent of Africa. However, as has been recorded, fruits from Mauritius infested with the larvæ have been intercepted at the port of Durban.

Holotype, a male obtained by Mr. G. A. Hepburn, entomologist at the Cedara School of Agriculture, Natal, at Tananarive, Madagascar, during his visit there in April 1935.

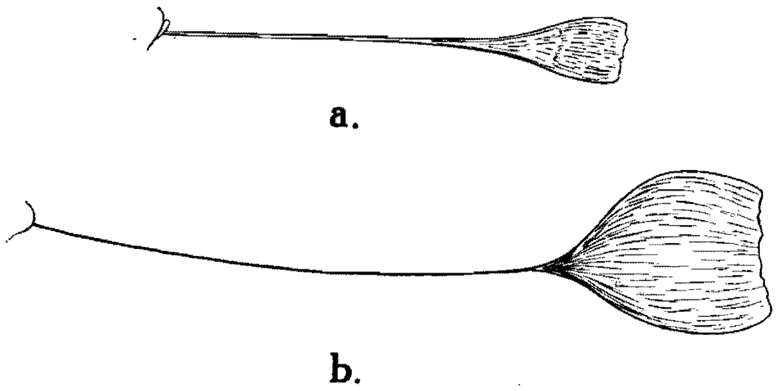

Fig. 2. Spatulate bristle on frons of male of a. *Ceratitis malgassa* Mro., and b. *Ceratitis catoirei* Guér.

The new species may be at once distinguished from *catoirei* by the size and shape of the spatulate bristle on the frons in the male. In *catoirei* these bristles (fig. 2b) are conspicuous, even to the naked eye, as rather large, white spots well in advance of the head as, in what is apparently the normal position, they are directed forward and a little upwards and outward. The bristles are about one and a half times the length of the head and extend beyond the aristæ. The yellowish stem is flattened laterally and the spatula spread horizontally and thus conspicuous in a dorsal view. It is probable that the flat surface of the spatula is morphologically the same as that of the stem and has been twisted through 90 although as far as can be observed there is no sign of a twist at the juncture. Thus too, in a dorsal view as seen in the figure, the stem appears as a fine line, while laterally it is wide and the spatula seen on edge. The latter, scutiform in shape with the truncate, anterior margin a little concave, is almost transparent and has a strong white reflection by incident light; the surface is rather obscurely striate. In *malgassa* the bristles (fig. 2a) are not so conspicuous, only as long as the head and not projecting beyond the aristæ. They are somewhat displaced in the specimen, but are apparently flattened laterally; the transparent, glassy stem, narrow at the base, is barely widened on its inner two-thirds, then rather more strongly, the edges thickened; the spatula, somewhat wider than the end of the stem, is almost square and rather small. It is also marked with striations that extend faintly on to the outer end of the stem, and is white by reflected light. As seen in the figure the flat surface of the spatula is on the same plane as that of the stem, but the bristle is apparently somewhat twisted outwardly. It may be noted here that in *Ceratitis capitata* Wied. the spatula is lozenge-shaped, the outer end at times more rounded; it is black and strongly striated.

Apart from the spatulate bristles, *malgassa* is very like *catoirei*. Length 5.5 mm., of wing 5.25 mm. *Head* yellow; the frons appears more prominent than in *catoirei* in which it is usually more flat; there is slight black pubescence, bristles normal, the two inferior and the upper superior orbital dark yellow, the strong ocellars black (usually yellow or only blackish in *catorei*), the lower, spatulate, superior orbital on a small tubercle; lunule small; antennæ dark yellow, about half length of face, arista bare but slight pubescence on yellowish base; face pale yellowish, flat, epistome not projecting; proboscis and flat palpi yellow. *Thorax*; the dorsum has a somewhat different appearance to that in *catoirei*, the spots, of which the arrangement is similar, are brownish-black with black pubescence, the supra-alar spots deep black, the spaces between are mainly brownish with whitish dust and pale pubescence, on each side is a somewhat elongate spot over the suture, the strong prescutellar yellow spots form hooks one on each side of and united to a short median yellow stripe that reaches to the dorso-central line; humeri whitish with a brown spot. In *catoirei* the dorsum is almost quite black, the spots, with black pubescence, defined by the pattern of the grey tomentum with pale pubescence, the lateral sutural spots weak and the prescutellar spots usually reduced as also the median stripe, but they are sometimes almost as strong as in *malgassa*. The scutellum is similar in both but in the *malgassa* specimen the basal pair of black spots is strong and the transverse yellow bar well marked, in *catoirei* they are usually weak and so the scutellum more completely black. The pleura are yellow with whitish pubescence, deep yellow on lower mesopleura; on the upper half of the mesopleura is a dull, blackish rectangle (continued a bit towards the base of the wing) and marked out by wide, whitish margins, only the upper portion of which, on the notopleural line, is usually conspicuous in *catoirei*; upper part of post-scutellum shining black, the lower thickly grey dusted. Bristles normal, inner and outer scapulars yellowish, others black, one mesopleural, the dorso-centrals a little behind line of anterior supra-alars, no distinct propleurals. Legs as in *catoirei*, yellow, with yellow clothing, the front femora also rather swollen and with similar, long, deep, yellow hairs and row of almost orange bristles below. Halteres yellow. Wing as in *catoirei*, basal streaks as usual, basal band yellow above with blackish edges and blackish below, the free marginal band yellow in marginal and submarginal cells with the usual four black spots and black edges, blackish outwardly, cubital free, medial united, both blackish. Venation normal, third vein rather sparsely setulose to middle of first posterior cell, lower, outer angle of discal cell acute. *Abdomen* brownish yellow, broadly blackish with dark greyish dust on hind margin of second segment, the fourth segment almost wholly so and a trace on third; pubescence shining, black. Genitalia yellow.

PERILAMPSIS, Bez.

In view of the discovery of the female of *Perilampsis diademata* Bez. as recorded in the following pages, it is necessary to amend the tables given on page 34 of volume I of this Journal. The changes to be noted are: —

15 (16) No yellow or white hypopleural spots.
  A. Base of ovipositor short, about one-sixth wing-length; abdomen not strongly red, but more reddish-brown, the transverse bars of white pubescence somewhat more pronounced .... ♂♀ *curta* Mro.
  B. Base of ovipositor long, one-third wing-length; abdomen quite red, the white transverse bars less prominent .... (♂) ♀ *diademata* Bez.

16 (15) Yellow hypopleural spots present.

17 (18) A single reduced spot.
  A. Abdomen red; squamæ blackish (if hypopleural spot is but little apparent or absent, see 15(16) B) .... ♂ *diademata* Bez.
  B. Abdomen blackish-brown with yellowish transverse bands; squamæ white .... ♂ *miratrix* n. sp.

20 (19) Yellow mesopleural stripe widened; basal band on wing close to anal cross-vein, only hyaline streaks present; base of oviposition half length of wings .... ♀ *miratrix* n. sp.

Perilampsis diademata Bez.

Bezzi, 1924, Ann. S. A. Mus., 19, 482, Pl. XII, fig. 28; Bull. Ent. Res., 15, 104 (in tables).

Munro, 1926, Union S. Afr., Dept. Agric., Ent. Memoir 5, 23; 1939, Jnl. Ent. Soc. S. Afr., I, 39.

As has been noted previously, no authentic females of this species (particularly from the type locality) were known, but in 1929 I recorded a pair from Bulawayo, Southern Rhodesia, that was, with some confidence, regarded as *diademata* Bez. However, efforts were made as occasion offered to secure more specimens at or near the type locality, but without success. It was not till 1937 when species of *Perilampsis* were bred by Mr. W. E. Marriott and the writer from fruits of species of *Loranthus* (apparently a group food-plant for the genus) that further definite steps were taken. During 1938 Mr. F. A. S. Turner who is in charge of the Buffelspoort Citrus Experiment Station kindly collected numbers of fruits of a *Loranthus* growing there and from these several specimens of both sexes of *Perilampsis diademata* emerged. Comparison of the females showed at once that the Rhodesian pair could not be *diademata*.

Apart from the lack of sufficient material on which a comparative examination could be made, the chief reason for regarding the Rhodesian pair as *diademata* was that the single type, a male, of *diademata* appeared to have been more or less teneral at the time of capture. There was thus nothing to indicate to what extent the bright red, translucent abdomen might not have darkened in more mature specimens, and so have assumed the darker, more blackish, appearance seen in the Rhodesian male, the two males being otherwise very similar.

Five males and twelve females emerged from the Buffelspoort material and these were kept alive, being fed on sugar and water, for three weeks. There was therefore every reason to believe that the coloration was fully developed and the integument thoroughly hardened when the specimens were pinned. In all the abdomen remained a bright red and, when held to the light, was translucent. Further, in the dried specimens the abdomen is still red, and in better preserved ones, even somewhat transparent. The males are the same size as the type (length and wing-length 4.0 mm.), the females rather larger, length 5.5 mm., of wing 4.5 mm. In the male the frons is about one-fifth longer than wide, in te female barely longer; in the type the third joint of each antenna has been broken off, in the fresh specimens they are dark yellow, the arista shortly pubescent; the reddish-brown band over the top of the face and base of antennæ is wider in the female, reaching nearly to the middle of the face; in the female the femora are a darker brown than in the male. In the type there is a single, fairly distinct, yellow spot on the hypopleura, while in the fresh males there is perhaps just a bare trace of yellowness there, in the females none at all. The abdomen in both sexes has a striking red colour, translucent in live specimens, more or less transparent when dry; the rather inconspicuous transverse bands of white pubescence are on the hind margin of the second and fourth segments, not of the first and third. The base of the ovipositor is shining black, with black pubescence; it is legging-shaped and but a little shorter than the pre-abdomen — about one-third the wing-length.

In life the eye is marked with three horizontal bars of shining green on a chocolate-coloured ground. The top bar is opposite the two inferior orbital bristles and about as wide as their distance apart; it is constricted a bit in its middle and then narrows to a point before reaching the hind edge of the eye. The middle bar is narrow and is just below the roots of the antennæ. The lowest bar is opposite and, in front, as wide as the lower white portion of the face narrowing rapidly to a point at the middle of the hind margin of the eye.

Biology.

Fruits of the host-plant, *Loranthus rubromarginatus*, were collected by Mr. Turner on the Buffelspoort Citrus Experiment Station, near Marikana in the Transvaal. The locality is some twenty-five miles to the west of the spot at Silikatsnek where the type of *diademata* was taken. From experience with other species of *Perilampsis* that had been bred, the collecting was delayed until the berries were beginning to ripen. However, in the material gathered were many dried-up, shrivelled and blackish fruits, and it was in these and not in the ripening fruits that the puparia were found. A few of the infested fruits had become reddish, but this was probably due to premature ripening because, on comparison of their size and that of greener infested fruits with fully ripened ones, is seems that infestation must occur when the fruits are green and little more than half grown.

Examination of the available material showed that the larvæ feed in the seed and not in the outer, and later soft, ripe parts of the fruits. The puparia were found in the old fruits embedded in a dirty brown mass mixed with latex, an exit having been made by the larva. The large, red, ripe fruits are much eaten by birds, but as infestation by this species is in the green fruits which seldom ripen, the insect is not interfered with by being incidently eaten by the birds.

The puparia have the typical obliquely-truncate anterior end common to other species of the genus.

Perilampsis curta Mro.

Munro, 1938, Jnl. E. Afr. & Uganda Nat. Hist. Soc., 13, 164.

Comparison of a female paratype of this species with the newly discovered females of *Perilampsis diademata* shows that the two are closely allied. The females may be distinguished by the lengths of the base of the ovipositor, about one-sixth the wing-length in *curta*, one-third in *diademata*. The males may be more difficult, but the very red abdomen of *diademata* seems to be quite characteristic. In the description of *curta* it is stated that the abdomen is strongly reddish; this must be accepted as comparative to the other species in which it is blackish. In the female paratype it is a rather light, reddish-brown; no male is available for further comparison.

A note may be made here of an error in the original description. It is stated „A species very like *dimidiata*" — this should read „*diademata*".

Perilampsis miratrix n. sp.

Perilampsis diademata Mro. *nec* Bez., 1929, Bull. Ent. Res., 20, 394; 1939, Jnl. Ent. Soc. S. Afr., 1.39 (in part).

As has been explained, the pair recorded above in 1929 as *diademata* and an additional female, are a distinct species. The main characters that may be noted are the strong double white hypopleural spots in the female, and in both sexes the white, not black, squamæ, and the abdomen of the more usual blackish-brown colour with rather pronounced, transverse, yellow bars.

Holotype ♂, Bulawayo, S. Rhodesia, 19.1.27, allotype ♀, 24.7.27 and paratype ♀, 1.5.27, R. H. R. Stevenson.

♂. Total and wing-lenth, 4.0 mm. *Head:* occiput mainly yellow, with a rather reduced pair of brownish spots on each side above neck; frons, upper third yellow and a brownish bar at level of lower superior orbital bristle, the lower two-fifths whitish, two inferior orbitals, the ocellars strong; lunule inconspicuous; antennæ brown, arista short pubescent; face: a brown bar over upper third and base of antennæ, white below, genæ with a large brown spot; proboscis and palpi brownish. *Thorax:* blackish-brown with a tinge of reddish; dorsum: pubescence black and the usual pre- and post-sutural bars of white pubescence with white dust; dorso-central bristles on line of anterior supra-alars, one mesopleural. Humeri and united broad mesopleural stripe and scutellum ivory white, on hypopleura a small, rather indistinct, yellow spot; four scutellar bristles. Legs brown, the fore tibiæ paler and all tibiæ and tarsi yellowish. Wing as in *diademata;* medial bar united, cubital free, the basal and humeral separated by hyaline streaks and the costal cells mainly hyaline. *Abdomen:* black, the third segment entirely so, second broadly yellowish on hind margin and with narrower silvery bar and pale pubescence; fourth on anterior third and sides, yellowish in middle and wide silvery bar and pale pubescence on hind margin, fifth yellow on middle.

♀. Length 5.25 mm., wing 4.3 mm. Similar to male. Thorax black and there is an elongate, curved, double, white hypopleural spot in addition to the other white marks. Middle and hind femora black, the front pair with a black stripe below, yellowish above, tibiæ and tarsi yellow. Abdomen black, the second segment with a moderate silvery dusted hind margin, the fourth on the hind two-thirds. Base of ovipositor elongate legging-shaped, shining black, with black pubescence, nearly twice as long as pre-abdomen and about half the wing-length.

MARRIOTTELLA n.g.

The position of this genus seems to be a rather intermediate one, but it is perhaps most closely allied to the Euribiini *(sensu* Hendel 1927). It may be located there, at least provisionally, until a revision can be made of the African species that may be placed in that group or are related to it. If Hendel's 1927 tables were strictly followed, this new genus would come somewhere in the neighbourhood of the Tephrellini, at least as regards the appearance of the abdomen; it may be more nearly allied to *Ensina* on account of the single superior orbital bristle, but *Ensina,* it may be noted, has been regarded as allied to the Euribiini. Further, *Gymnosagena* Mro. is in a somewhat similar position to *Marriottella.*

The new genus may be considered as agreeing with the Euribiini in its general configuration, the shape of the head, the single superior orbital bristle and the wing-venation. Two characters seem to exclude it as the group has been defined by Hendel, namely, the white occipital bristles and only two scutellar bristles. As regards the relative lengths of the fifth and sixth tergites of the abdomen in the female, this seems to be a rather unreliable character. In *Mariottella* the sixth is only a little longer than the fifth while in most species of *Myiopites* and *Euribia* known to me it seems to be definitely shorter; however, in female specimens of two European species, *Myiopites blottii* Bréb., and *Euribia maura* Frf. the sixth is almost twice as long as the fifth.

The chief generic characters of *Marriottella* are: — *Head:* occipital bristles white, a single superior and two inferior orbital bristles, the ocellars well developed, frons bare, lunule moderate, antennæ rather elongate, the third joint broadly acuminate, arista short pubescent, proboscis short. *Thorax:* chætotaxy normal, dorsocentral bristles close to suture, one mesopleural and two scutellars. Wing narrow, pattern reduced, a conspicuous white spot at tip, third vein bare, upper cross-vein well beyond middle of discal cell, anal cross-vein straight.

Genotype: the following new species, *Marriottella exquisita.*

Marriottella exquisita n. sp.

Holotype ♂, allotype ♀, 20♂, 17 ♀, paratypes, Drakensberg, Natal (Rockeries Section) July 1938, W. E. Marriott. Reared from puparia found in terminal twig galls on *Helichrysum splendidum*.

Length ♂ 4.0 mm., of wing 3.3 mm. (width 0.9 mm.), ♀, 4.5 mm., of wing 3.5 mm. (with 1.0 mm.). A black, ant-like species with just enough light, whitish dust over the whole body to give a light, greyish appearance over the black, the tibiæ and tarsi mostly brown. *Head* (fig. 3): occiput hollow above, moderate below, the bristles white; frons as long as wide, slightly narrowed anteriorly where it is a little prominent in profile, flat and bare, most of the central part with a slight reddish-brown tinge, one superior orbital bristle (in one specimen there is on one side an upper white bristle), two inferior orbitals; lunule moderate; antennæ rather light reddish-brown with a slight blackish tinge, as long as face, third joint acuminate in its whole length, but the tip rounded, arista concolorous with antennæ and short pubescent; face rather wide, broadly raised in middle to moderately prominent epistome, the edges of which are polished; cheeks about a third the width of widest part of third antennal joint, genæ rather less than one-fifth height of eye, the bristle moderate; palpi flat, black, proboscis short, but hooked, brownish.

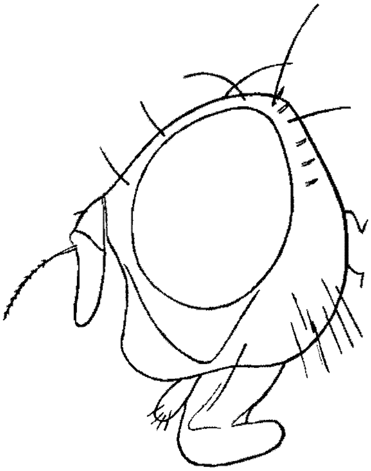

Fig. 3. *Marriottella exquisita* n. sp. Head.

Thorax: slight, fine, black pubescence and a few white hairs along front edge of dorsum; bristles normal, dorso-centrals close to suture, mesopleural, pteropleural and sternopleural present, two scutellars. Scutellum short and broadly rounded at end. Legs: coxæ more or less brownish, as also femora at outer ends, fore tibiæ mostly brown, the others broadly so apically, all metatarsi brown, the other hind tarsal joints black, all the rest black above, brown below. Wing (fig. 4) rather short, but narrow, in the male the inner margin almost straight, in the female more convex; the black bar from base to end of stigma is very dense, the rest of the costa and all veins beyond the line of the end of the stigma are black, within this line and below the black basal stripe, the wing membrane and the veins are yellowish; the blackish band before the wing tip is very irregular, in the figure it is strongly marked, otherwise it becomes narrowed below and sometimes does not cross the fourth vein. A most noticeable feature is the white patch filling the wing tip and bounded inwardly by this black band; on this patch the microtrichiæ are colourless and it would seem that they are filled with air which serves to give the milky white effect — on the triangle between the membrane folds and the costa at the end of the first posterior cell the are much denser and the whiteness is thus more pronounced there. At the base of the wing, on the yellowish membrane, there are also spots on which the microtrichiæ are colourless, but the white effect is not apparent on them. On the rest of the wing surface the microtrichiæ are black, giving the wing a very slightly greyish appearance and the presence of stronger, very black, microtrichiæ along the membranous edge of the hind margin of the wing simulate a very narrow black edging. Third vein bare. Upper squama white on its outer two-thirds, and with a white fringe, the lower brownish and narrower than the upper. Halteres reddish at base.

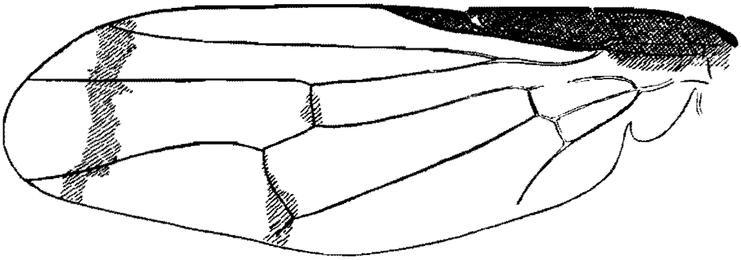

Fig. 4. *Marriottella exquisita* n.sp. Wing.

Abdomen: the light greyish dust is rather less than on thorax. Dorsum at base with slight darkish pubescence, otherwise covered with rather sparse, but long, somewhat erect, thickish white pubescence. Venter: sternites narrow, shining black with slight, fine, black pubescence; membranes large, dull black; genitalia rather large, shining black. Base of ovipositor shining black with black pubescence, 1 mm. in length, rather more than a fourth of the wing-length; it is stout, rather short and flattened, the width at base about half the length.

Puparium. Length 3.25 mm., the greatest width 1.7 mm.; oval, slightly or sometimes more markedly narrowed anteriorly; polished black, dull on ventral surface, the segmentation rather strongly marked by greyish etching.

Biology.

The flies described were reared from puparia in terminal twig-galls on *Helichrysum splendidum* (Thbg.) Less. *) found in the Rockeries Section of the Drakensberg in Natal. The material was collected by Mr. W. E. Marriott in July 1938 along the banks of the Ntonyelana River (puma kwelanga). Mr. Marriott said that the Zulu words „puma kwelanga", meaning where the sun rises, indicate that the river comes from the east, flowing west; they serve to distinguish this river from another Ntonyelana River that flows east and to which are added the words „shona kwelanga", that is, where the sun sets. Further, Mr. Marriott wrote: „The plant seems to bo confined to rivers and grows amongst boulders on banks which may be flooded after storms. Galls were found chiefly on the large well-grown bushes. Along some of the rivers there are no galls on the bushes; this may be a matter of aspect for, owing to the proximity of high peaks, some streams get much less sun than others, thus these less sunny places do not seem to be frequented by the flies.

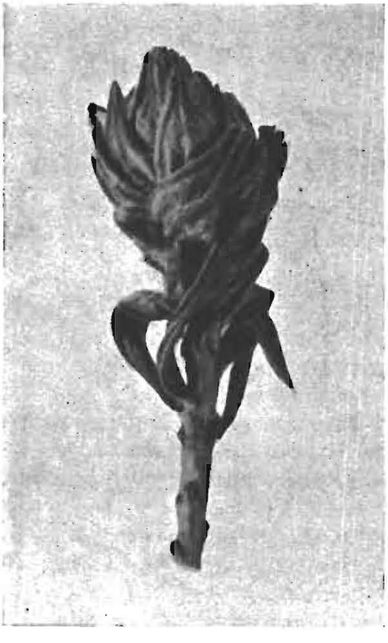

Fig. 5. *Marriottella exquisita* n.sp. A gall at the tip of a twig of *Helichrysum splendidum.* (Enlarged twice.)

The Gall. At first sight the gall appears to be of fair size, about 15 mm. long and 10 mm. in diameter. On examination, however, it is found that the outer portion consists of a close-set, imbricate series of leaves enclosing what is really the „gall", a relatively small swelling at the tip of the twig which is only slightly if at all thickened. It would seem that the egg is laid in the extreme tip of a young growing shoot, and the larva remains there, not boring down into the stem. The presence of the larva, however, while preventing any further growth in length of the stem, causes as a rule a slight swelling and a vigorous development of leaves. These become bract-like and much wider than the linear leaves found on the plants of *Helichrysum splendidum* occurring in this area. As they develop the leaves close over the tip of the twig, resulting in the appearance seen in the photograph (fig. 5).

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*) Kindly determined by Miss I. C. Verdoorn of the National Herbarium, Pretoria.

Oedaspis (Tylaspis) crocea n. sp.

Differs from the other two species of the subgenus in wing-pattern and in the black dorsum of the thorax.

Holotype ♂, 25—30. X. 1928, allotype ♀, 1—6. XI. 1928, Cape Province, Matjesfontein, R. E. Turner. Types in the British Museum.

♂, length, 5.0 mm., wing, 4.25 mm., ♀, length, 6.0 mm., wing, 4.5 mm. *Head,* yellow, swollen (rather crushed in specimens), the eye small and frons prominent, occiput flat above, moderate below, where there is golden sheen; frons wide, about two-thirds width of head, three-fourths long as wide; bristles black, occipitals whitish, four inferior and one superior orbital, the female with a second, yellowish superior orbital on one side, ocellars moderate, the male with a supernumerary pair, before lunule a little, but strong, black pubescence and a distinct pair of hairs a little before and on inner side of the superior orbitals; lunule large and wide, rather short; antennæ two-thirds length of face, second joint about as large as the small third which is only a little longer than wide, arista brown, bare; face with shallow grooves, epistome a little prominent; cheeks as wide

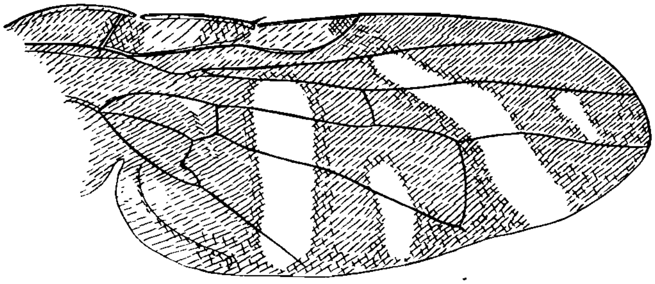

Fig. 6. *Oedaspis (Tylaspis) crocea,* n.sp. Wing.

as third antennal joint, genæ twice this width and about one-fourth height of eye; eye rather oblique, twice as long as wide, rather longer and more oblique in female; short proboscis and palpi too retracted into mouth cavity for observation.

Thorax yellow; dorsum black, chestnut on sides above humeri, along suture and a supra-alar stripe also on hind fourth with obscure median and dorso-central streaks to suture, in female only a narrow transverse bar just before prescutellar bristles, which in male are on black spots; pubescence coarse, yellow, longer behind, on the black faint whitish dust, except laterally; sides of thorax also with rather long, coarse, yellow pubescence; pleura with blackish tinge, mesosternites broadly black centrally; bristles normal, black, no scapulars, dorsocentrals on line of anterior supra-alars, pteropleurals obscured by pin. Scutellum with emarginate hind margin, yellow with pair of moderate lateral shining black spots and large, rounded apical pair, four bristles on the black; a little coarse pubescence; upper part of post-scutellum yellow, lower black; halteres and legs yellow; wing (fig. 6) stigma yellow hyaline, apex brownish, the dark bands are so extensive that the wing is almost entirely yellowish-brown, only relatively narrow, hyaline bars remaining, these being blackish margined and the hind part of the wing also with a blackish tinge; the figure is of the female, in the male the small outer streak is absent, the small medial one reduced to a spot on the hind margin. *Abdomen* yellow with black, yellow-shining pubescence; venter yellow with black pubescence; genitalia dark yellow; in the female the last two segments slightly blackish on middle, sixth about three-fourths length of fifth; base of ovipositor short, truncate conical, broad at base, 0.9 mm., a little shorter than fifth segment, chestnut, black at tip.

Paroxyna clarinetta n. sp.

Very like *Paroxyna anceps* Lw., but larger, wing-length 4.5 mm.; in *anceps*, 3.5 to 4.0 mm. varying to 2.75 mm. in the smaller specimens of the variety *fasciolata* Bez. The banded wing-pattern is rather more strongly marked than in *anceps*, but in the variety it is again stronger, the third, outermost, hyaline spot in the marginal cell more usually absent. The chief differences from *anceps* are the much longer base of the ovipositor, and the long, coarse, white pubescence on the dorsum of the abdomen. This applies particularly to the female, as the only male available of the new species is in poor condition.

Holotype female, allotype male and seven female paratypes, Cape Province, Matjesfontein, October-December 1928, R. E. Turner; one female paratype, Little Karroo, 38 miles east of Ceres, XI. 1924, R. E. Turner (British Museum material). One female paratype, Cape

Province, Bloukrans, near Calvinia, 17. XI. 1931, J. Ogilvie (from the Imperial Institute of Entomology, London).

♀. Length 6.5 mm., of wing 4.5 mm. *Head* yellow, as long as high and a quarter wider, of normal shape; frons deeper yellow, whitish on sides and a slight median stripe, bare, bristles black, three inferior orbitals, two superior, the upper whitish as also verticals, the occipitals darkened; lunule moderate; antennæ nearly as long as face, darker yellow, third joint brown, arista microscopically pubescent; epistome slightly projecting, cheeks as wide as third antennal joint, as also genæ; lower part of head with coarse, yellowish hairs among which genal bristle barely differentiated; palpi very elongate, setulose, brownish on outer half; proboscis very elongate, labellæ as long as base and one-fourth longer than head. *Thorax* black, humeri, narrow notopleural stripe and wing-base yellow, generally covered with moderate, whitish dust and on dorsum a slight median and stronger dorso-central brownish stripes uniting before scutellum; pubescence coarse, whitish; bristles normal, black, pteropleural yellow, dorso-centrals close to suture, four scutellars, apicals about half length of basals. Legs normal, light brownish, femora black except on outer sides. Halteres yellow. Wing banded, a faint basal band, stigma yellow on inner two-thirds, blackish at end, a bar from stigma over upper cross-vein to top of lower then over outer end of discal cell to wing margin, a weak bar from middle of discal cell faintly to wing margin, a bar from tip of marginal cell to hind margin with a hyaline spot in marginal cell, occasionally absent or with one in submarginal cell as well, apical band from tip of submarginal to tip of second posterior cell. *Abdomen* black with slight white dust and long, white pubescence; base of ovipositor very long, rather more than twice length of abdomen and 0.6 times length of wing, narrow, widenened at base where in dry specimens it is usually flattened and apparently about as wide as last segment; shining black with black pubescence.

♂. Length 4.25 mm., of wing 3.75 mm. The single male is damaged and in poor condition, but apparently like female. It is, however, almost impossible, without better specimens, to indicate its distinguishing characters especially from larger males of *anceps*. In the specimen the abdomen is black with slight white dust and the genitalia shining black.